# Afghanistan Agricultural Assessment and Framework Development

**Summary presentation**

April 22, 2011

# Introduction

**Context**

- The USG sponsors numerous agricultural development activities in Afghanistan, representing an investment portfolio of >$1 billion
- In light of multiple pressing agricultural priorities, the predicted declining USG budget scenario, and pending full transition to GIRoA in 2014, the USG engaged Dalberg to (i) Review current USG agricultural development activities, and, (ii) Develop a strategic framework to rationalize investments for optimal impact
- On 28 February 2011, Dalberg began an 8-week engagement to develop a strategic framework for agriculture investment that optimized for the dual goals of supporting food security and increasing income growth in Afghanistan
- In developing this strategic framework, Dalberg worked with the USG team in Kabul, communicating closely with colleagues in the regions, and conducting >100 stakeholder interviews across donors, implementing partners, and the Afghan public and private sectors

**Using this document**

- The purpose of this document is to summarize the investment framework for agriculture that prioritizes supporting food security and increasing income growth in Afghanistan
- This document is supported by three files. There is an Annex file of analysis as well as a secondary set of back up data in a Supporting Materials file. In addition, Dalberg has provided the USAID Afghanistan Office of Agriculture with the Excel-based investment, production and return model whose findings informed the strategic framework. Dalberg is committed to ensuring the USG has (i) full transparency of inputs and assumptions, and, (ii) ability to update this analysis with new data as appropriate going forward.

# Executive summary

**The proposed strategic framework outlines a sustainable approach to support food security and agricultural income growth.**

- Afghanistan has a growing, urbanizing and food insecure population
- The agriculture sector produces insufficient, highly variable amounts of the nation's primary staple crop, wheat. Malnourishment is a further concern - additional fruit and vegetable consumption is needed as Afghans consume roughly a quarter of the WHO minimum guideline, which is on average met in other developing Asian countries
- Agricultural income growth is similarly vital in a country where 75% of the population participates in an agriculture sector that represents 1/3 of the economy, but whose GNI per capita is 11th from the bottom in global rankings

**The recommended approach is geographically-focused; it prioritizes investments in wheat production and a sub-set of high-value crops with demonstrated near-term income generating potential.**

- Geographically-focused investments target 13 priority provinces
- Nine of these provinces have the greatest wheat production enhancement potential; significant potential also exists for the production of raisins and almonds, in which Afghanistan has a relatively strong addressable market and comparative advantage
  - Badghis, Baghlan, Balkh, Faryab, Herat, Jowzjan, Kunduz, Samangan, and Takhar
- Four additional provinces lead the country in production of these promising high-value crops
  - Kabul, Parwan, Zabul, and Ghazni
- Agriculture investments in Helmand and Kandahar, potentially required for stabilization, will yield lower yet positive returns

**Analysis indicates that annual return on this potential set of investments by 2014 could have significant positive impact to the lives and livelihoods of farmers and their families.**

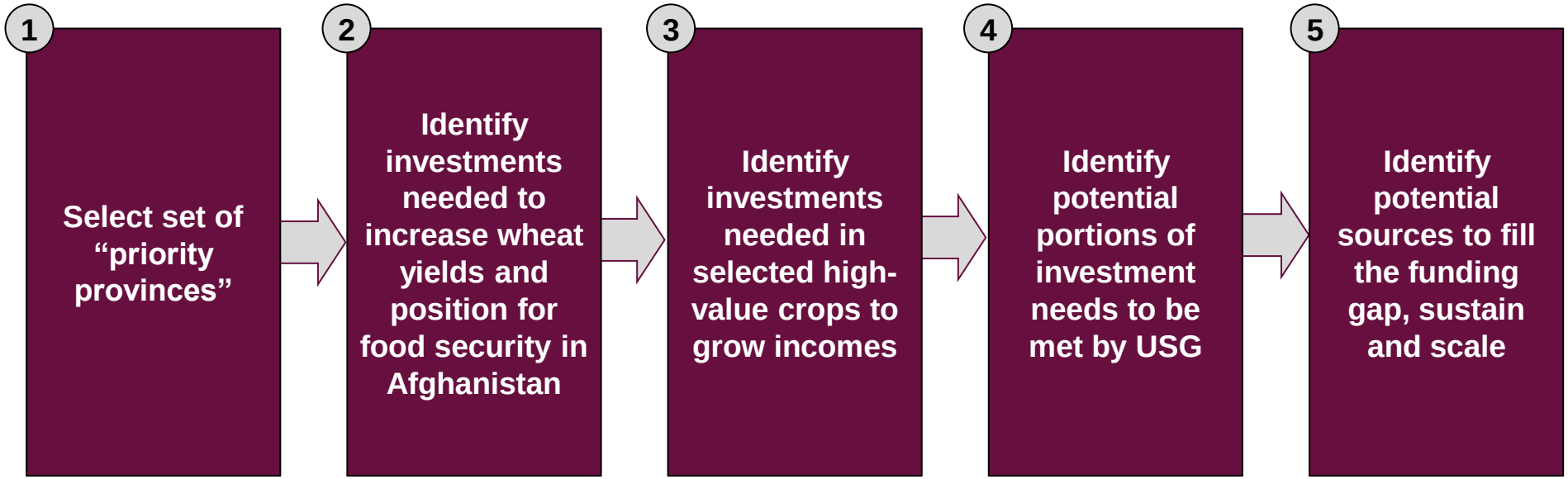
- (1) ~$750 million / year in additional value generated, (2) ~8.5 million farmers and families reached, 3) ~1-2 million Afghans with strengthened rural livelihoods, and (4) ~25% increase in average farmer household income

**Potential investments span five focus areas:**

- Sector investment requirements are estimated at: ~$300m / year 2011-14, ~$260m / year 2015-18, and ~$75m / year 2019-24
- While geographies and crops are short-listed, investment interventions span a critical points across the value chain: watersheds and irrigation, inputs, agronomic extension, capacity building for the public and private sectors, and storage

**Approaches to aligning the USG agricultural portfolio against this strategic framework, addressing projected funding gaps, and engaging the private sector to sustainably carry this forward are critical next steps also addressed in this document.**

# The proposed strategic framework aims to: (i) position Afghanistan for food security (ii) generate income growth (iii) be sustainable and scalable




***Food security: Households have access to sufficient and reliable sources of food to meet caloric and nutritional needs.***

***Income growth: Households pursue economic activities and demonstrate increased incomes through increased consumption and savings.***

# The framework implies a geographically-targeted, crop-specific approach

**In which provinces could increasing wheat yields position Afghanistan for food security?**

- Due to wheat production potential, initial "priority provinces": Badghis, Baghlan, Balkh, Faryab, Herat, Jowzjan, Kunduz, Samangan, and Takhar

**Of the high-value crops grown in these provinces, which have immediate significant income-generating potential in both rural and urban areas?**

- Due to size and growth rate of market, Afghanistan's addressable share, and assets required to grow share, priority crops in the near-term are raisins and almonds

**What other provinces could be prioritized to cover the majority of the country's production in these high-value crops, and enough people to ensure income dispersion[1]?**

- Due to production base and population coverage, additional "priority provinces" include: Kabul, Parwan, Zabul, and Ghazni

**Priority provinces:**

- **Badghis**
- **Baghlan**
- **Balkh**
- **Faryab**
- **Ghazni**
- **Herat**
- **Jowzjan**
- **Kabul**
- **Kunduz**
- **Samangan**
- **Parwan**
- **Takhar**
- **Zabul**

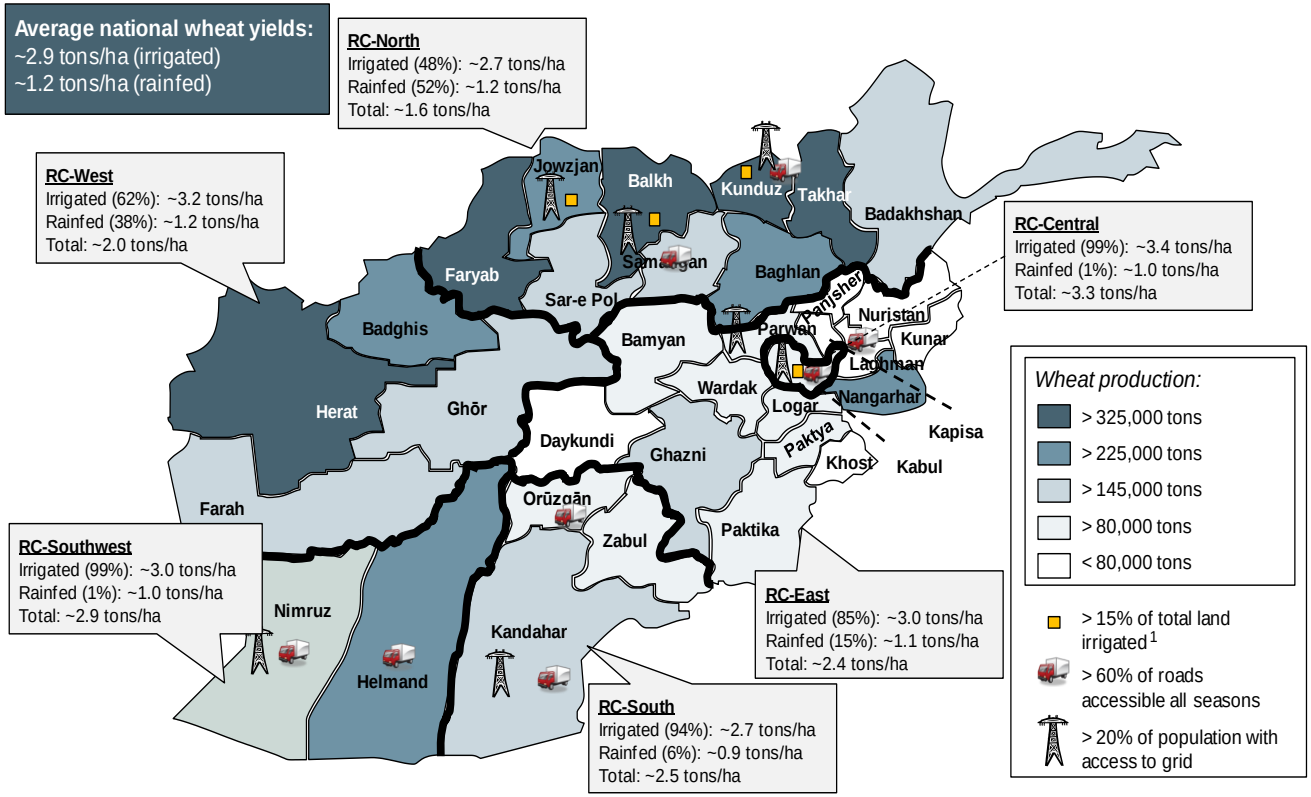
**Priority high-value crops:**

- **Raisins**
- **Almonds**



1. "Income dispersion" refers to income creation outside of urban centers to ensure broader base of population engaged to spur economic growth

# Increasing wheat productivity in the northern provinces to match levels achieved in the south could position Afghanistan for food security




Northern and western Afghanistan produce the most wheat despite a low per hectare productivity (~1.6–2.0 ton/ha) when compared to the southern, central, and eastern provinces (~2.4–3.3 tons/ha).

Productivity in the north/west could match south/central/east levels with foundational investments in irrigation inputs and extension, positioning Afghanistan for food security by year 2015. *(Annex pp. 16)*

These foundational investments in the north/west are likely to boost production across a broader basket of goods outside of wheat as well. This would potentially increase fruits, vegetables and proteins available locally, as well as start to support the production of select high-value crops for export.

**Note on data:** Data on this and all following slides is based on available information as of April 2011 from GIRoA (CSO, MAIL), USG and its implementing partners, World Bank and FAO. Analysis can and should be updated as new data becomes available.

Note: Percent of irrigated and rainfed land presented as the share of total productive wheat farm area in each region. Regions are classified according to Regional Commands. Wheat production is categorized according to quintiles; other data indicators represent top quintile.
1. Ideally, irrigated land would be measured as a proportion of total agricultural land, but data at a provincial level is lacking.
Source: Afghanistan Statistical Yearbook, Central Statistics Office (2009/10); MRRD Provincial Development Profiles; Dalberg analysis

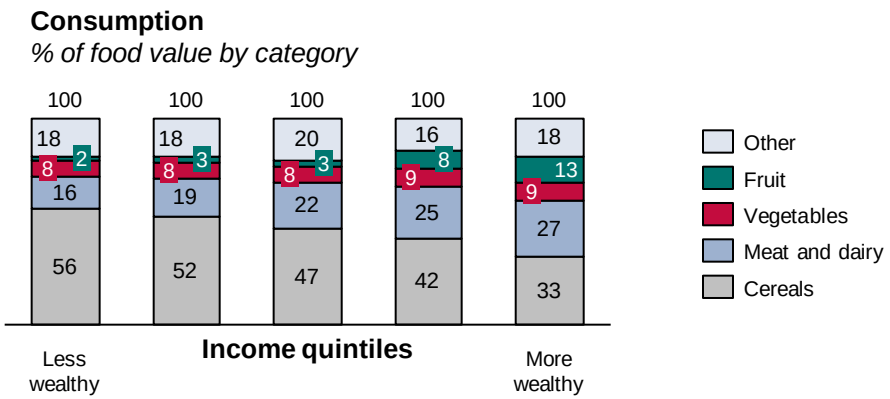
# Of potential high-value crops, raisins and almonds appear best positioned for near-term income growth from increased exports

| | Priority for near-term income | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Almonds** | **Raisins** | **Dried Apricots** | **Figs** | **Pistachios** | **Walnuts** | **Pomegranates** | **Peaches** |
| **1** ***Where is demand growing?*** Global export growth rate[1] (% per year - value) | ~16%[2] | ~10-13% | ~13-18% | ~6-10% | ~5-10% | ~8-10% | ~10-15%[3] | ~3-5% |
| **2** ***Where are Afghan revenues coming from today?*** Afghan export value, 2008/09 ($ million per year) | ~$20-40 | ~$30-35 | ~$10-17 | ~$10-16 | ~$20-25 | ~$8-13 | ~$9[4] | ~$1-7 |
| **3** ***What is Afghanistan's market share?*** Global market share, 2008/09 (% of global export market - volume) | ~2-4% | ~3-5% | ~3-5% | ~2-5% | <1% | ~1-2% | ~2-5%[5] | <1% |
| **4** ***How does marginal income increase differently by crop?*** Est. farmer income per hectare, 2009[6] ($ per year) | ~10,000 | ~12,000 | ~3,500 | *Not reported* | ~12,000 | ~8,800 | ~5,400 | *Not reported* |
| **5** ***In markets to which Afghanistan is currently exporting, what could be share by 2014?*** Addressable regional export market, 2014 ($ million per year) | ~55-60 | ~40-45 | ~20-25 | ~18-20 | ~16-18 | ~15-18 | ~10-12[7] | ~5-7[8] |
| **6** ***What additional supply side issues need to be considered?*** | **Almond and raisin exports leverage existing distribution channels and can withstand long transportation times on Afghanistan's poor roads** | | **Other dried fruits and nuts also leverage existing distribution channels and tolerate delays** | | | | **Fresh fruits exports require investment in post-harvest logistics including cold chain management and more efficient, cost-effective transportation, which could be provided by the private sector in the longer-term** | |

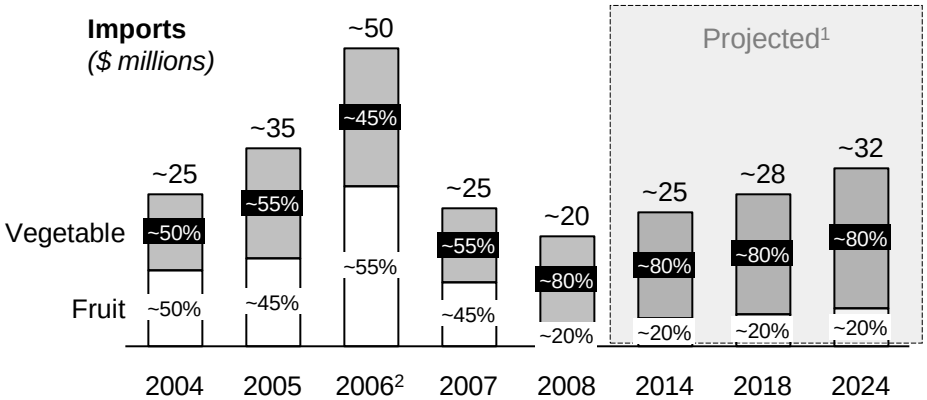
1. Range incorporates data from FAO (2001-08) and ITC (2006-09) where available; 2. FAO annual growth rate (2001-08) only, ITC growth rate (2006-09) is unreliable due to severe weather in Spain during the 2003/04 season which cause a significant increase in 2005/06 prices; 3. Range of annual production growth (2004-06) and export growth (2005-10) in India, representing ~30-40% of total global production; 4. FAO "Fruits Fresh, not elsewhere specified", includes pomegranates with several others fresh fruits but none are significant in Afghanistan (e.g. rose hips, babaco); 5. Estimated percentage of total global production; 6. Data from 2010, likely based on 2009 levels; 7. Includes exports to Europe and North America (~25% of Afghan export total); 8. Includes exports to USA (~60% of Afghan export total)
Source: See annex slide 37 for source and methodology and annex slides 24-28 for more detailed information on almonds, raisins, dried apricots, apples, pomegranates, cherries and saffron.

# Export markets are the focus for income growth because the domestic market is only economically additive if imports are substituted

**As Afghan incomes increase over time, taste preferences and willingness to pay for fruits and vegetables will likely increase**




**If Afghans spent future income on domestically produced fruits and vegetables, that could produce ~$25-35 m in revenues**




The domestic market's ability to generate income growth for Afghanistan can be estimated by looking at imports and assuming they could be displaced by new domestic production. Additional benefits from increased domestic market activity include improvements to supply chain efficiency through consolidation of purchasers and distribution networks *(see Annex pp. 19)* and improved household nutrition from diversity in domestically available fruits, vegetables and proteins *(see Additional Supporting Materials pp. 13-17)*

Any other form of domestic market sale that does not displace an import is not additive to country income – it is just shifting incomes within the country.

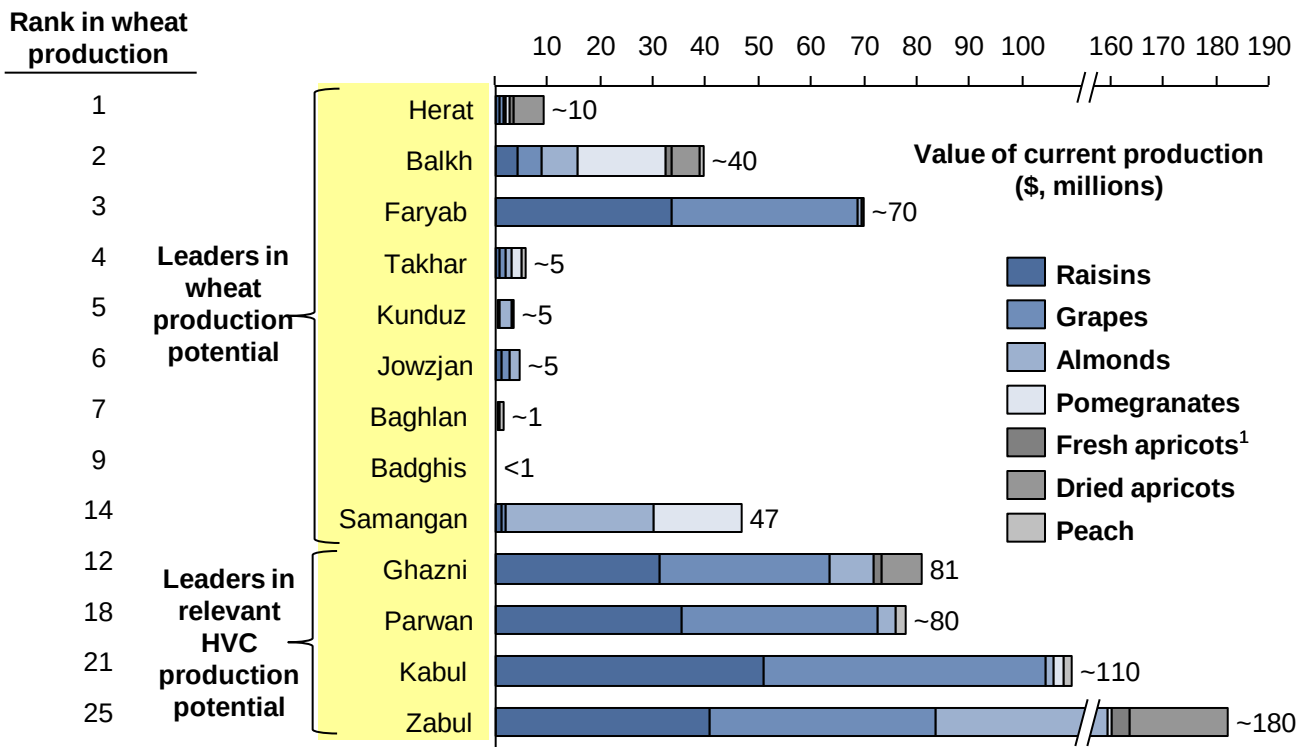
Import substitution assumes that (i) Afghan incomes will increase over time due to mining and other sector growth, and, (ii) domestic produce will meet the same Afghan consumer needs and preferences as imported products.

Assuming Afghanistan could displace <u>all</u> imports, that would add ~$25m in 2014 and ~$32m in 2024, compared with ~$50m in 2014 and ~$230m in 2024 for increased exports of priority crops to markets in which Afghanistan already trades, and applying conservative assumptions regarding share growth.[3]

1. Projection assumes constant per capita import consumption with annual population growth ~3-4% (2008-24); 2. Adverse weather and drought contributed to decreased domestic production in 2006 leading to a significant increase in imports; 3. Only if Afghanistan has greater than 10% market share in a country is it's share increased by half by 2024. If Afghanistan has less than 10% market share in a country, that share is only increased by 10% by 2024.
Source: FAO Stat; World Bank (data.worldbank.org); CSO Yearbook 2009-10; National Risk and Vulnerability Assessment (2008-09) UNCTAD; market research in Kabul

# Optimizing for food security and near-term income growth results in a core set of 13 priority provinces

**13 Proposed Priority Provinces:**
**Optimizing for Food Security and Income Growth**




**Why prioritize by province?**

- Recognizes declining USG budget and limited alternative sources of funding, thus narrows focus, and enables economies of scale
- Recognizes Afghan public and private sectors as ultimate owners, and organizes around an Afghan administrative boundary

**How are priority provinces selected?**

- The strategic framework optimizes for food security and income growth, and so:
- Selects provinces in which increasing wheat production could position Afghanistan for food security
- Identifies promising high-value crops grown in these provinces, and then adds additional provinces to the priority list based on their production of these same high-value crops

**What does this set of 13 provinces provide?**

- Covers ~50% of the total population and ~45% of the rural population
- Covers ~65% of national wheat production and ~85% of grape and almond production[2]

Note: Prices are estimated based on average export prices and are sourced from the Agricultural Commodities Price Report, 2010 and "Job Creation and Income Generation in Southern Afghanistan," USAID, 2010 1. Total apricot production is estimated from FAO 2007 as more current estimates do not exist; provincial breakdown is estimated according to Apricot Production in Afghanistan," NUDHA Study, 2008; 2. Based on volume
Source: MRRD Provincial Profiles; CSO Yearbook 2009/10; Dalberg analysis. Full provincial statistics in Annex pp. 35.

# If stabilization required investment in southern Afghanistan, expected return on investments would be lower yet still positive

**It is recommended that any agricultural investments for stabilization purposes still be consistent with the strategic framework, and hence focus in the near-term on the high-value crops of raisins and almonds**

| | 1 Average of 13 provinces | 2 Helmand | 3 Kandahar |
|---|---|---|---|
| **Current production** | Grapes: ~60k tons<br>Almonds: ~5k tons | Grapes: ~65k tons<br>Almonds: ~220 tons | Grapes: ~18k tons<br>Almonds: 0 tons |
| **Investment 2011-14** | ~$770k | ~$930k | $930k |
| **Impact[1] 2011-14** | ~$10m | ~$7m | ~$2m |
| **Return[2] 2011-14** | ~$12 /$1 invested | ~$7 /$1 invested | ~$2 /$1 invested |

- Current production of the target high-value crops prioritized by the strategic framework
- Does not include wheat production

- Only includes grape and almond-specific investments which are in inputs and extension; wheat-driven investments such as for irrigation were excluded
- Helmand and Kandahar include a 20% premium for security *(Annex pp. 44)*

- Value of additional production of grapes/ raisins and almonds in the domestic and export markets

- Return on investment calculated as impact over investment for 2011-2014

***Pomegranates not included because even investments for stabilization should support the overall strategic prioritization of grape and almond production in the near-term. In addition, high-quality pomegranate production is currently small and appears to require significant capital investment to scale (Annex pp. 28)***

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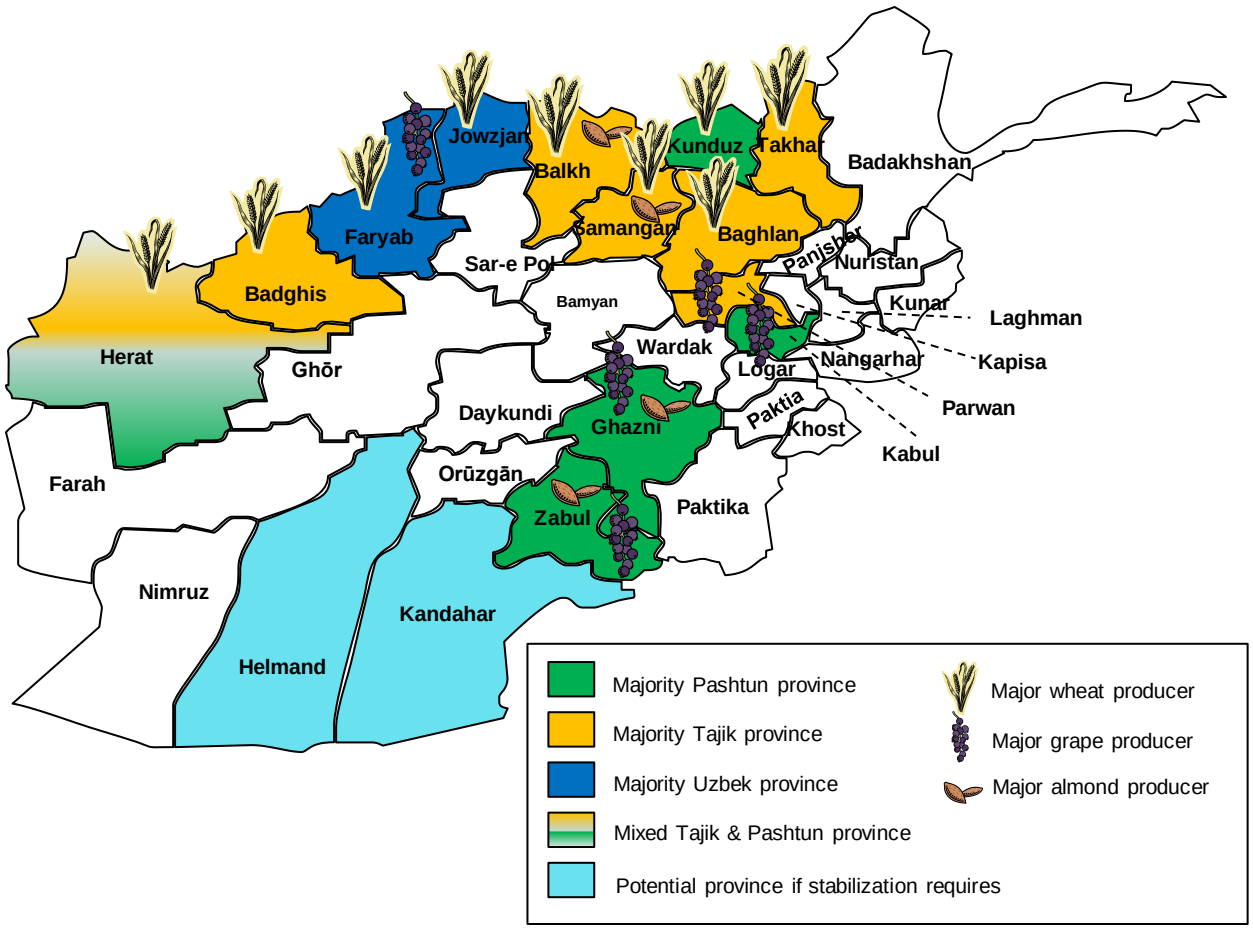
1. Impact = total increase in agriculture production value; 2. Return = impact / investment (including security premium)
Source: MRRD Provincial Profiles; CSO Statistical Yearbook 2009/10; Dalberg analysis

# Visualization of proposed strategic framework for investment




**This purposefully optimizes for food security and income growth, not stabilization. Separate choices can be made to fund stabilization activities.**

**The strategic framework implies targeting investments to sub-set of provinces to:**

- Increase **wheat availability** by: *(Annex pp. 16)*
  - ~15-20% to ~6 million metric tons / year by 2014
  - ~35-40% to ~7 million metric tons / year by 2018
  - ~40-45% to ~7.5 million metric tons / year by 2024

  By increasing yields by ~50% to ~2.7 tons / ha

- Increase **production of crops with near-term income-generating crops** (almond and raisins) by:
  - ~20-25% to ~1.2 million metric tons by 2014
  - ~80-85% to ~1.9 million metric tons by 2018
  - ~105-115% to ~2.3 million metric tons by 2024

- Increase **export market** revenues by:
  - ~$50m / year in 2014; ~20-25% increase
  - ~$170m / year in 2018; ~70-75% increase
  - ~$230m / year in 2024; ~95-100% increase

- Increase **domestic market** revenues as possible, recognizing that only import substitution is actually additive to the country economy, and the entirety of the import market is only ~$20-40 million per year *(Annex pp. 11)*

**Estimated investment requirements:**
*(Annex pp. 13, 38-41)*

- ~$300 million / year from 2011-14
- ~$230 million / year from 2015-18
- ~$75 million / year from 2019-24

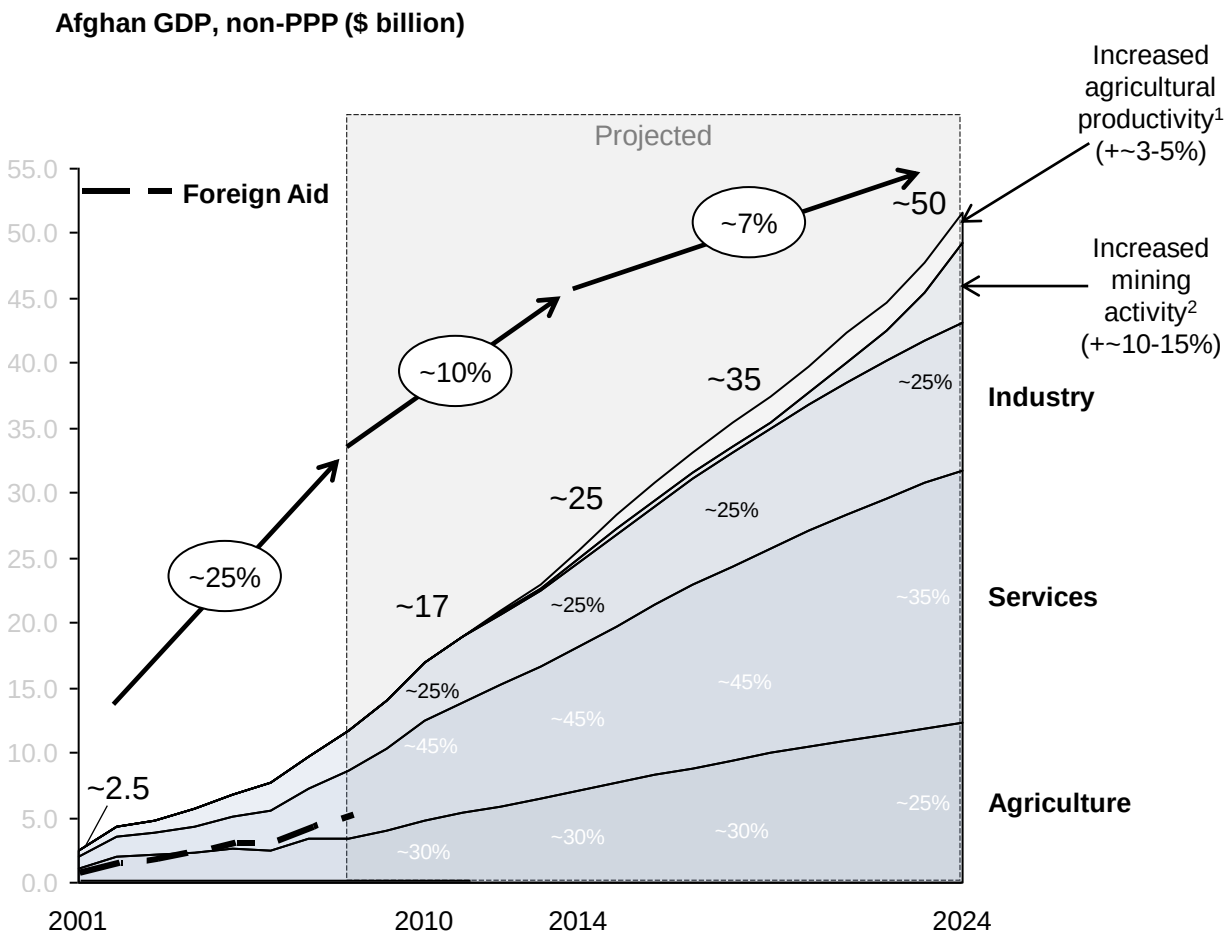
**Estimated returns on investment in 2014:**
*(Annex pp. 14,42-43)*

- ~$750 million in agricultural value / year
- ~8.5 million Afghans reached
- ~25% increase in avg. farmer household income



Source: MRRD Provincial Profiles; CSO Statistical Yearbook 2009/10; Dalberg analysis

# Increased agricultural productivity would account for ~3-5% of GDP in 2024, equal to ~$2.3bn per year




Afghan GDP grew ~25% per year between 2001 and 2010. This growth has been driven in large part by international foreign aid, ~40% of GDP or ~$5bn in 2008. GDP growth is anticipated to slow starting in 2010 to ~10% per year, and further to ~7% per year in 2015. By 2024, it is projected that GDP will be growing at a annual rate of ~3-4%.

Increased mining operations, anticipated to begin in 2012-2014 will grow to ~10-15% of GDP in 2024, contributing ~$6bn per year to GDP.

Investments made to increase agricultural productivity will contribute an additional ~3-5% to GDP, at 2024 project levels this would equate to ~$2.2-2.5bn of increased agricultural output.

1. Dalberg analysis; 2. Calculated based on royalty projections from USAID using an assumed royalty rate of 8% of total revenues beginning in 2001-12
Source: The World Bank, The International Monetary Fund ; UNCTADstat; USAID, "Mining for Growth, A Strategic Review of Development Opportunities in the Afghan Mining Sector," (2010); CSO Statistical Yearbook 2009/10; Agricultural Commodity Price Bulletin, MAIL/FAO, October 2010; Job Creation and Income Generation in Southern Afghanistan," USAID, 2010; MRRD Provincial Profiles

# Resulting income lift would reach roughly a quarter of the current population, providing an estimated ~25% increase in incomes in 2014 and ~90% in 2024

| | Value from additional agricultural production | Number of Afghans reached[1] | Estimation of strengthened rural livelihoods[2] | Increase to household income[3] | |
|---|---|---|---|---|---|
| | *Dollar value associated with increased production* | *Number of farmers and families living on hectares impacted by any of the interventions* | *Number of people for whom underemployment or unemployment is reduced* | *The absolute and relative income increases to farmer households reached* | |
| **In 2014** | + ~$750 million | ~8.5 million | ~1-2 million | + ~$300-400 | + ~25% |
| **In 2018** | + ~$1.8 billion | ~9.0 million | ~2-2.5 million | + ~$900-1,000 | + ~75% |
| **In 2024** | + ~$2.3 billion | ~9.5 million | ~2.5-3.0 million | + ~$1,000-1,100 | + ~90% |

1. Defined as number of Afghans who benefit from interventions outlined by the strategic framework. 2. Defined as the increase in the number of farmers who are no longer underemployed due to lack of agricultural productivity. Does not include indirect reach of interventions which may include a strengthened informal labor market and increased employment in the agribusiness sector (see Annex p. 43) 3. Farmer income based on estimate of $1200/year from interviews with Roots of Peace.

Source: CSO Statistical Yearbook 2009/10; Provincial Agricultural Profiles, ASAP, 2008; Expert interviews with FAO, World Bank, USDA, USAID and MAIL; Dalberg analysis

# To achieve this impact, five focus areas for investment would be required

## Investments at key points across the value chain recognizes there is no one 'silver bullet'

| | Why invest here? | In what potential interventions? |
|---|---|---|
| 1 **Watershed and Irrigation** | • Foundational investment which significantly improves yields for all crops (eg. ~80% for wheat[1])<br>• Provides ongoing long-term benefit, given maintenance | • Watershed rehabilitation<br>• Emergency rehabilitation of existing irrigation structures<br>• On-farm water management<br>• New irrigation structures |
| 2 **Inputs** | • High quality seeds and saplings can improve yield by ~40-80%[1], and ensure against crop losses<br>• Proper use of fertilizer can increase yields by ~30-40% | • High-yield and drought-resistant seeds<br>• Climate and crop-specific fertilizer<br>• High quality saplings (for orchard crops)<br>• Equipment (hand threshers, trellises, beehives, etc…) |
| 3 **Agronomic Extension** | • Improved farming techniques can increase yields by ~80-200%[1], depending on the crop | • Planting techniques and pre-harvest maintenance<br>• Improved use of irrigation and fertilizers<br>• Training of new extension agents |
| 4 **Capacity Building** *(private and public sector)* | • Public sector need training and tools to deliver services<br>• Private sector needs access to capital to catalyze operations | • Research center<br>• Training MAIL/DAIL to deliver services, manage operations and budget<br>• On-budget support for MAIL/DAIL<br>• Guarantee / direct loan funds |
| 5 **Post-harvest** *(mainly storage and logistics)* | • Improved storage and streamlined logistics reduces spoilage and loss<br>• Estimates indicate on-farm storage can decrease wheat losses by ~30-50%[1] | • On-farm (e.g. hermetically sealed bags)<br>• Rehabilitation / construction of warehouses and silos<br>• Support strategic grain reserve |

*Part of the sustainability of foundational investments such as irrigation is the engagement of communities and DAILs in their maintenance and upkeep*

**When prioritizing and sequencing consider starting with investments that:**

**(i) Provide broad production uplift agnostic to crop**

**(ii) Address basic needs in farming practices and support systems**

**(iii) Require early action as benefits take time to 'come online'**

1. See Annex pp 38-41

See Annex p. 20-21 for an outline of the rationale for a holistic intervention and Annex p.18 for the relative impact of each of these interventions.

Source: Interviews with GIRoA; Afghan farmers, traders and processors; USAID, USDA, USG implementing partners; FAO, World Bank; USG program documents; Dalberg analysis

# As foundational investments in land can potentially create unintended negative consequences, anticipate risks and mitigating actions

| Risks | Mitigating factors | |
|---|---|---|
| **Land tenure:** As investments in irrigation and extension improve land productivity, land value increases and provokes further conflicts over land ownership given the lack of formal land tenure | • Begin documenting informal land tenure (eg, through community-based systems) at the same time as major irrigation investments are rolled out<br>• Prioritize land tenure policies, communication, and processes as part of capacity-building investments | **Land tenure in Afghanistan is complex, with ownership rights not always clear or documented**<br>• Most land, urban and rural, is state-owned<br>• Private ownership is highly informal (eg, ~70% of land in Kabul is informally owned)<br>Capacity-building interventions should consider training and support for tenure resolution |
| **Loss of wheat-producing land:** Farmers may choose to displace existing wheat fields in favor of higher-value crops leading to decreased domestic production of wheat | • Communicate how interventions to increase wheat yields will translate to additional income generated from wheat-producing land<br>• Include intercropping practices to extension training, so farmers can grow higher-value crops simultaneously | **Farmers may weigh income-generation tradeoffs between wheat and higher-value crops**<br>• Most farmers grow some wheat for subsistence<br>• Net income from wheat provides less than $500 per hectare compared to $10-12K for almonds and raisins, but would increase with irrigation<br>Opportunities exist to intercrop, allowing for production of wheat as well as cash crops |
| **Livestock:** Emphasis on wheat and horticulture neglects the benefits livestock brings to food security and watershed management, as well as its income-generating potential | • Incorporate extension for fodder crops with wheat and other high-value crops, so some cereal and horticulture investments benefit livestock as well<br>• Identify other opportunities for complementary actions, for example through watershed investments which can benefit from livestock productivity | **Livestock yields high-value products and helps meet food security needs, but a wheat-led strategy prioritizes horticulture-focused interventions with complementarities possible**<br>• Unlike high-value crops, livestock production does not directly benefit from investments in wheat productivity<br>• However, foundational investments in irrigation and watershed management can contribute to increased productivity in intensive livestock areas |

Dalberg

Source: Ministry of Agriculture, Irrigation and Livestock "Executive Summary Of Afghanistan Agriculture Master Plan"; USAID "Property Rights and Resource Governance: Afghanistan Country Profile"; USAID, "Afghanistan's Agenda for Action" (2007); USG interviews; Dalberg analysis

# Investment emphasis expected to shift over time

Time horizon →

Focus areas for funding ↑

| | Pre-transition *2011 - 2014* | Transition *2015 - 2018* | Post-transition *2019 - 2024* |
|---|---|---|---|
| **3 Sustain and scale** | Build capacity and address business environment constraints | Continue investing in skills & infrastructure, esp. for private sector | Expand to new crops (such as fresh fruits) and global markets |
| **2 Build on assets and competitive advantage to grow income** | Increase yield of high-potential crops (raisins, almonds, maybe apricots) | Improve quality of current high-potential crops to grow market share | Identify potential new crops and markets for demand-driven expansion |
| **1 Position for food security** | Increase wheat yield and production | Improve yield of vegetables grown with wheat | Sustain high-yield production through research, agronomy |

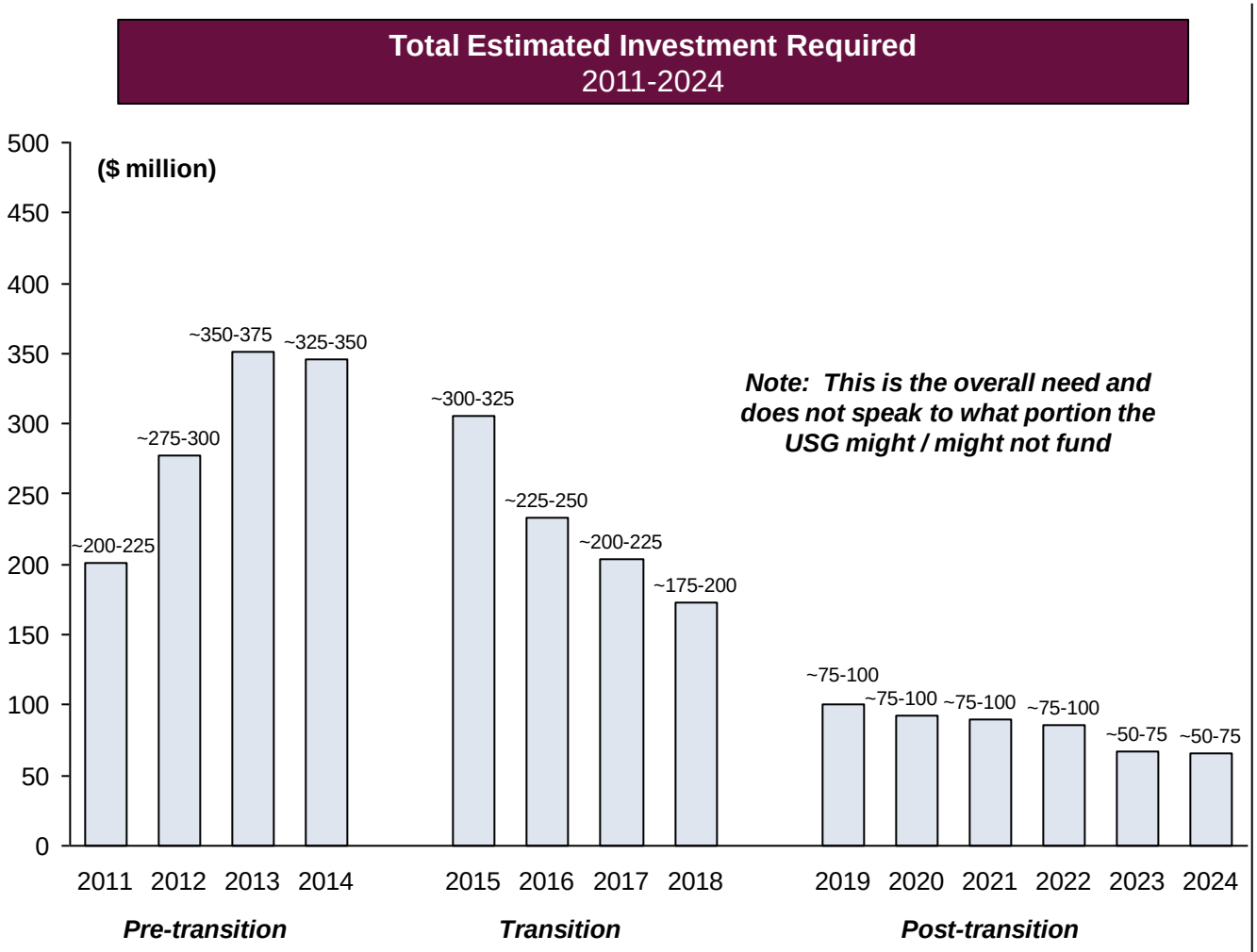
**The strategic framework integrates the dual objectives of increased food security and income growth, reflecting the belief that the former is fundamental to the latter.**

**Early investments emphasize food security in parallel with high-value crops identified to have immediate income potential – namely raisins and almonds.**

**Strategic framework is a 'living' decision-making tool to ensure investments stay demand-driven. Thus, expansion to other crops or markets is explored in outer years.**

= Focus area during selected timeframe, assuming earlier interventions were successful

# Investments required would amount to an estimated ~$300m/year until 2014, declining to ~$75m/year by 2024




**Pre-transition phase:** There is a need for ~$300m/year, focused primarily on:

- Increasing new irrigated farming land via new irrigation structures (~35%)
- Enabling aggregation in private sector through increased access to capital (~25%)
- Investing in better seeds and greater access to fertilizer for farmers (~15%)
- Remaining ~25% is split among extension services (~4%), on-farm water management (~5%), rehabilitation of existing structures (~5%), watershed management (~10%) and post-production storage (~1%)

**Transition phase:** Investment needs decline throughout this phase (average of ~$230m/year) focused on:

- Increasing new irrigated farming land via new irrigation structures (~25%)
- Investing in better seeds and greater access to fertilizer for farmers (~25%)
- Rehabilitating existing irrigation structures and implementing more effective on-farm water management (~20%)
- Remaining ~30% is split among extension services (~5%), capacity building (~15%), watershed management (~13%) and post production storage (~1-2%)

**Post-transition:** Investment needs settle around~$75m/year and are targeted towards:

- Investing in better seeds and greater access to fertilizer for farmers (~50%) depending on degree of private sector participation
- Rehabilitating existing irrigation structures and implementing more effective on-farm water management (~35%)
- Extension services and farmer training for wheat, almond and grapes (~10%)

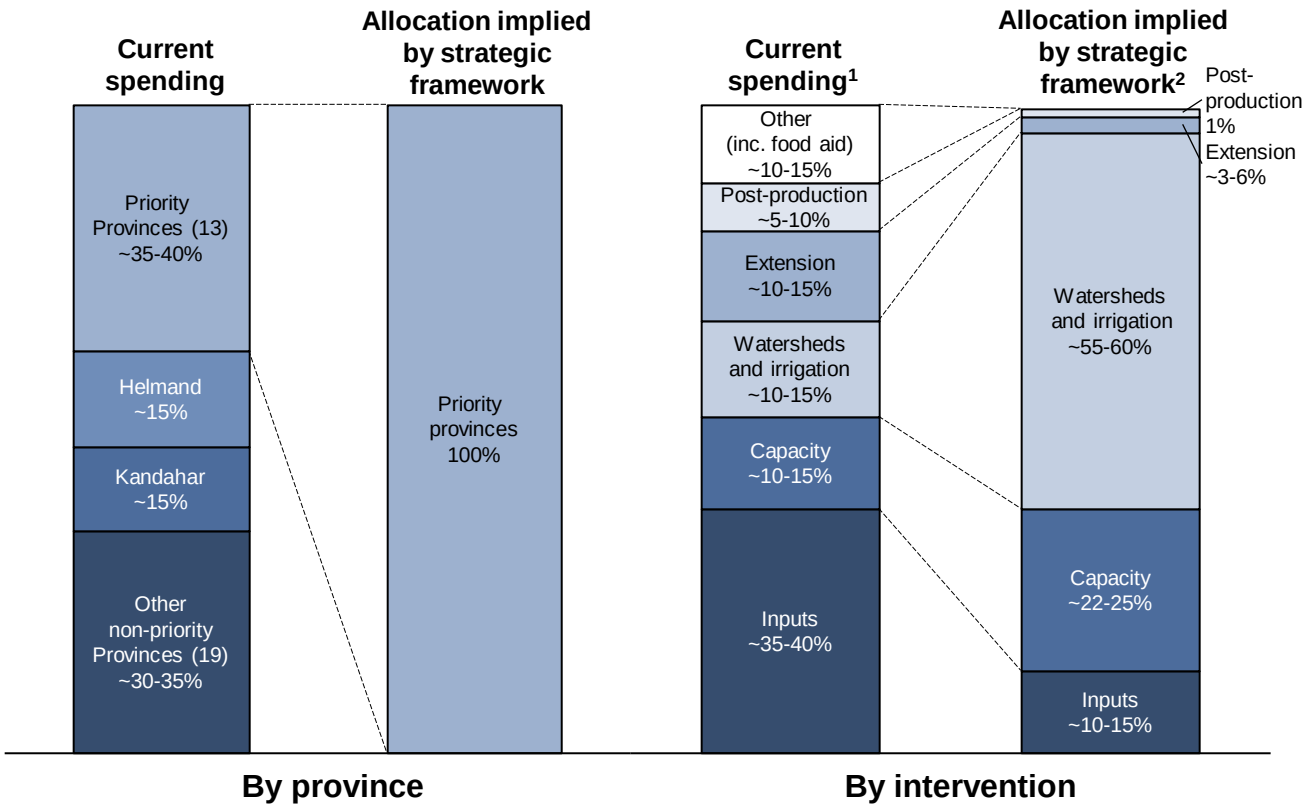
*(Further details can be found on Annex pp. 13)*



Source: CSO Statistical Yearbook 2009/10; Provincial Agricultural Profiles, ASAP, 2008; Expert interviews with FAO, World Bank, USDA, USAID and MAIL; Dalberg analysis

# Significant portions of current USG spending are already aligned to the allocation implied by the strategic framework

**Annual USG agricultural spending estimates**
Current portfolio as of Dec. 2010 (% of total)




Estimates from **18 of 21** programs representing ~90% of current USG agricultural spending.

Estimates from **20 of 21** current programs representing ~95% of current USG agricultural spending.

**In 2010, spending by USG agricultural programs in Afghanistan was ~$425-475m. Expenditures are not fully aligned to the allocation implied by the strategic framework, but partial overlap exists.**

Spending in 2010 was spread across all 34 provinces, with a focus on Helmand and Kandahar due to the AVIPA program. AVIPA focuses ~55-60% of its ~$180m annual spending in these two provinces.

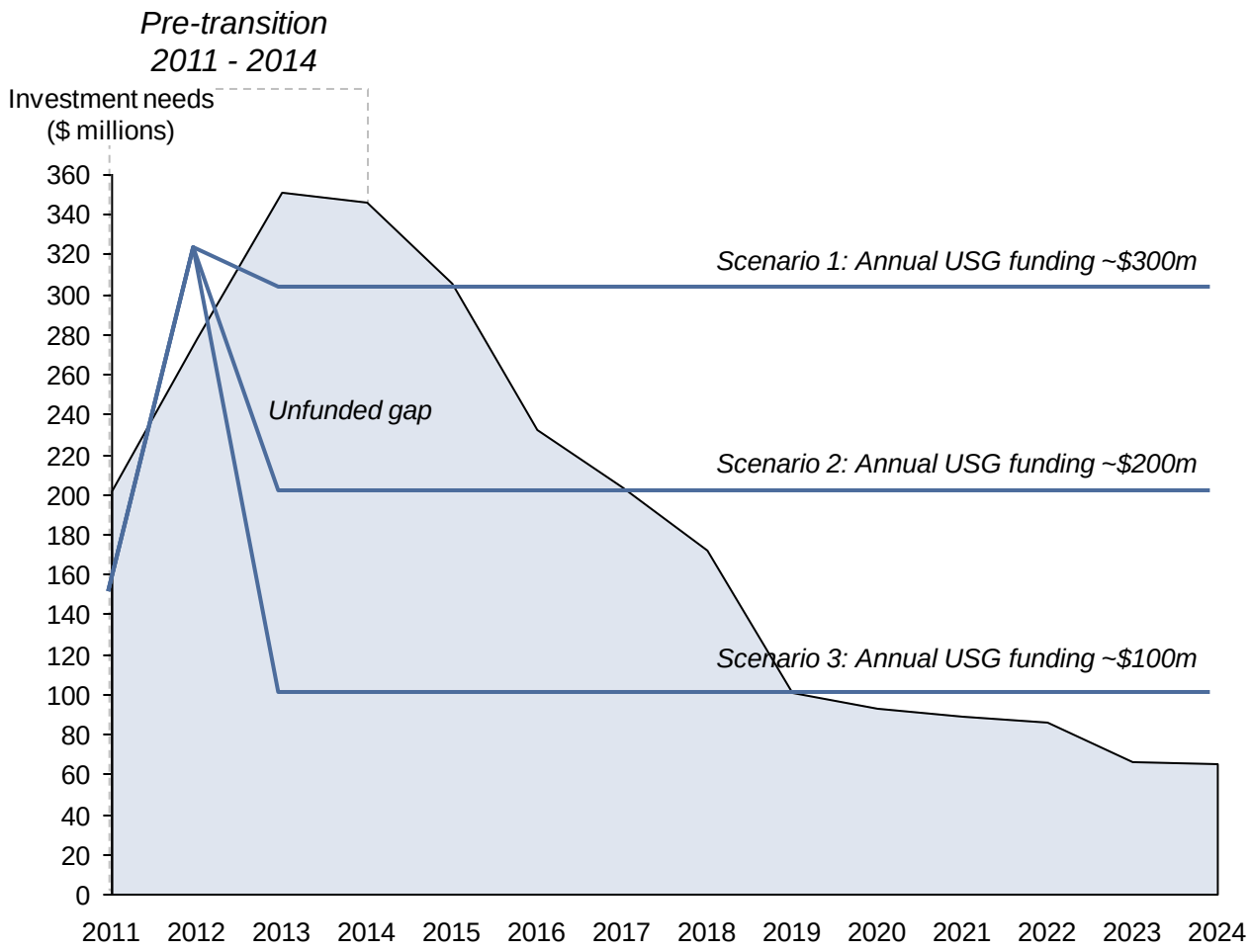
Emphasis on inputs is also driven by AVIPA spending: ~$100-115m of funding went to seeds, fertilizer and other inputs in 2010.

**Intervention category classifications:**

- **Inputs:** improved seeds and fertilizer
- **Capacity building:** public sector including data and information management, quality control, operations and financial management; and private sector including access to finance
- **Watersheds and irrigation:** on-farm water management; new irrigation; watershed management; rehabilitation of existing irrigation infrastructure
- **Extension services:** equipment and storage
- **Post-production:** primarily storage facilities

1. Current spending estimates provided by USG program COTRs and implementing partner leadership using a survey completed for each project (see Annex pp. 32-33), respondent interpretation of intervention categorization may not aligned exactly with the above stated definitions; 2. Based on the estimated investment needs for 2011-2014 implied by the strategic framework; Note: 'Other (USAID)' includes USAID projects with average annual spending less than $10m
Source: U.S. Embassy – Kabul, "USG Agricultural Assistance to Afghanistan: A Review," (2011); USG program documents and interviews with program leadership; Dalberg administered survey to COTRs, April 2011. See Annex pp. 30-31 for further details on individual program allocations across geographies and categories.

# Future USG funding is uncertain but is not expected to meet investment requirements




USG funding for agricultural programs is expected to drop dramatically from 2010 levels through transition, as emphasis shifts from stabilization activities to development:

- 2010: $450m (+ $260m from Supplemental)
- 2011: ~$150m (expected)
- 2012: ~$320m (expected)
- 2013+: ~$100m-300m (estimated) per year

Given uncertainty around future funding levels, three scenarios with annual funding of $100m, $200m, or $300m are used to examine potential funding gaps.

Even with the optimistic Scenario 1 which estimates $300m in ongoing annual funding, the range of investment need results in a funding gap of ~$50-75m in 2014, between total USG funding available and the need predicted by this strategic framework.

*(See Annex pp. 13 for details on annual investment needs and Annex pp. 19 for a list of interventions like to be supported by investment from other donors and the private sector)*



Source: CSO Statistical Yearbook 2009/10; USAID, "USAID's Enduring Development Partnership with Afghanistan (DRAFT)," (2011); U.S. Embassy – Kabul, "USG Agricultural Assistance to Afghanistan: A Review," (2011); Dalberg analysis

# Given current and future budget realities, USG should consider options to (i) focus its funding, and (ii) find alternatives sources to fill the gap

## How the USG might focus its funding

1 **Restrict Geographic Reach**
- Select a subset of provinces that still focus on the strategic priorities
  - Revise income growth and household targets downward
  - Conduct site selection process that identifies geographies where "systemic" investment can still take place (either stand-alone or co-investment)

2 **Prioritize Food Security**
- Focus exclusively on driving wheat production for on-farm consumption and domestic commercial distribution
  - Addresses primary domestic agricultural need
  - However, restricts income growth investment potential for ~30% of the economy and ~75% of the population[2]

3 **Prioritize Income Growth**
- Focus exclusively on high-value crops investments that maximize rural (farm) / urban (post-harvest) income
  - High-value crop market participation and support to justify ROI on foundational investments spreads USG organizational resources unreasonably thin

## Who else might fund the remaining gap

**Other Donors[1]: Immediate funds available but coordination can be challenging**
- ~$100m / year in potential collaborative funding
- Donor agencies likely have different development priorities, and may be bound to a legacy geographic footprint

**Afghan Private Sector: Limited capital available for investment before 2014, but substantial long-term potential**
- Limited and fragmented capital for near-term investments; limited collateral to support attractive financing options
- Commercial banks have capital available which has not been distributed; potential to continue to support commercial banking participation in agriculture through financial incentive programs and technical assistance

**Afghan Public Sector: Funding availability highly dependent on success of long-term mining investments**
- Limited near to mid-term revenue base for meaningful co- or parallel investment participation
- Longer term budget support possible if/when extractive/mineral industries come on line

**Catalyzing private sector participation is both desirable and necessary – dominance by either the donor community or Afghan public sector undermines longer term sustainability objectives**

Dalberg

1. Qualitative interviews with World Bank, DFID, AUSAID 2. Agriculture sector proportion of GDP in 2008, and Afghans involved in the agriculture sector.
Source: Dalberg analysis

# Private sector participation is critical to meeting projected investment needs; Afghan agribusiness is small, fragmented and requires near-term support

**Registered agribusiness sector: ~460 businesses worth ~$70-75m[1]**

| Small *< $0.1m* | Medium *$0.1m- $1.5m* | Large *$1.5m-$15m* |
|---|---|---|
| • **Avg. value ~$30-35k**<br>• 15-20% of registered agribusiness value[1]<br>• ~325 businesses (~65-70% of total) | • **Avg. value ~$270-280k**<br>• 50-55% of registered agribusiness value[1]<br>• ~130 businesses (~25-30% of total) | • **Avg. value ~$7.5m**<br>• 30-35% of registered agribusiness value<br>• Very few businesses (3 registrations 2003-10) |
| ~70% in priority provinces:<br>• Kabul ~20%<br>• Kunduz ~10%<br>• Baghlan ~10%<br>• Balkh ~10% | ~80% in priority provinces:<br>• Kabul ~30%<br>• Balkh ~15%<br>• Jowzjan ~10%<br>• Kunduz ~7% | In Kabul (large-scale farming and agricultural products manufacturing) and Baghlan (large-scale cattle operation). |
| Examples:<br>• Input distribution<br>• Small-scale on-farm construction | Examples:<br>• Farm equipment<br>• Post-harvest distribution<br>• Saffron production | Examples:<br>• Large-scale farming operations<br>• Post-harvest processing |

**Agribusinesses are focused in priority provinces, but are too small and fragmented to invest in needed value chain investments today.**

**Interventions should focus on promoting business growth to enable longer term consolidation.**

**The USG investment strategy can leverage two advantages vis-à-vis its relationship to the private sector : (1) availability of funds to make large investments, and (2) flexibility in direct and indirect funding support.**

The USG will optimize reach and impact in driving private sector participation by :

- Limiting direct investments to large scale "pre-competitive" foundational investments
- Making indirect investments in commercial financing support that allow private sector participants to access capital while still assessing / absorbing market risk (e.g. financing, NOT building cold storage facilities)

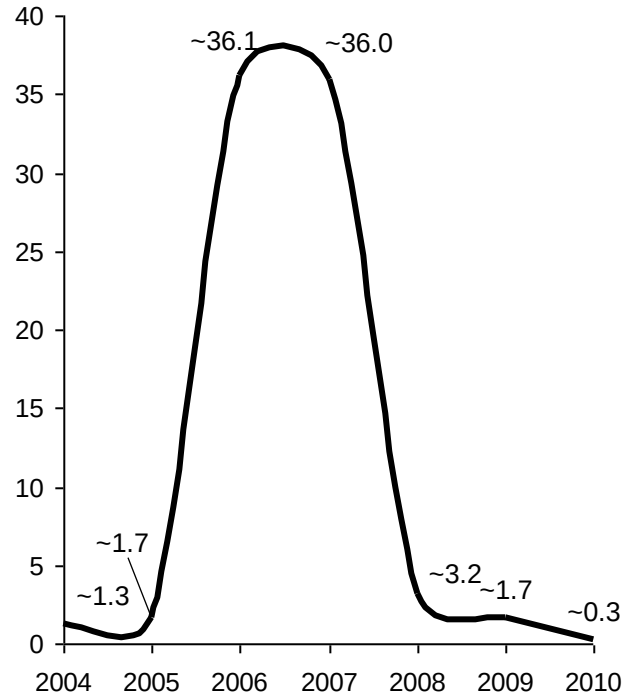
**Access to capital and support for necessary foundational investments would encourage the private sector to make other needed investments in the value chain, eg in cold storage and processing plants.**
*(See Annex pp. 19)*

Note: Analysis includes all agribusinesses registered with AISA between 2003 and 2010. Funding references initial capital only.
1. Business value as reported by business owners at the time of registration, which may not be reflective of current value
Source: Afghanistan Investment Support Agency (AISA); Kauffman Foundation 2011 report "Bactrian Gold: Challenges and Hope for Private-Sector Development in Afghanistan; interviews with Afghan agribusinesses

# While foreign investments in agriculture are being made, they will likely remain limited pending improvements to institutions, security, and infrastructure

## Foreign direct investment in Afghanistan's agriculture sector remains limited…

**New registrations of foreign agribusinesses[1]**
($ million)




## …with companies reluctant to invest…

- **Dole Food Company** walked away from a potential ~10k hectare farming investment in 2007, citing limited transportation and security challenges
- **The Mountain Pastures Dairy Company** failed to complete a dairy processing plant in Kunduz in 2007, despite opportunities to take advantage of subsidized powdered milk and support from both USAID and OPIC
- **Summit Associates,** a US-owned poultry importer which has expanded to dairy and juice processing, reports hesitation to invest in further physical infrastructure such as cold storage facilities due to land tenure challenges and foreign ownership limitations[2]

## …citing three key constraints to foreign investment

**Weak institutional support**
- Prohibition against foreign land ownership
- Changing legal framework with uncertain accountability procedures
- Perception of widespread corruption and 'rent seeking' behavior

**Security concerns**
- Ongoing insurgent attacks targets foreigners and foreign assets
- Limited security along high-traffic transportation routes
- High cost to maintain sufficient protection: security costs estimated at ~15%+ of revenue

**Poor basic infrastructure and services**
- Primary and secondary road network is limited and needs maintenance
- Domestic air freight is expensive and does not serve all areas
- Unreliable provision of water, power, telecommunications and sanitation
- Limited access to finance

1. New registrations of foreign agribusinesses for 2004-08 sourced from the 2008 AISA Annual Report; equivalent 2009-10 data provided by Research and Information Department, AISA; 2. Interview with Summit Associates
Source: The World Bank, "Investment Horizons: Afghanistan" (2005); AISA, "Annual Report 2008"; The Washington Post, "U.S. Pursues a New Way To Rebuild in Afghanistan" (2009); USAID, "Afghanistan's Agenda for Action" (2007); USAID 2006 "Mountain Pastures Dairy Company Project Environmental Assessment Scoping Statement"; interviews with external stakeholders